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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,654	06/08/2001	Luis Orlando Puigcerver	NC065-US1/5487-123	9502

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EXAMINER

POKER, JENNIFER A

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,654

Applicant(s)

PUIGCERVER ET AL.

Examiner

Jennifer A. Poker

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 9-13, 26 and 40-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14-25, 27-39 and 56-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-8, 14-25, 27-39, and 56-58 in Paper No. 5 is acknowledged. The traversal is on the grounds that there is no undue burden to examine the method claims along with the product claims, and that it would be reasonable to examine the case without requiring an election of species. . This is not found persuasive because the method claims are classified in class 29, subclass 602.1, and would require an additional search. Furthermore, the many embodiments/species of the invention are listed within the claims requiring an additional search. Applicant is required under 35 U.S. C. 121 to elect a single disclosed species for prosecution on the merits, which the applicant has properly done in Paper No. 5.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it is in excess of 150 words. Correction is required. See MPEP § 608.01(b).

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Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference signs not mentioned in the description: “400”, “407”, “409”, “410”, “450”, “452”, “455”, “457”, “459”, “459”, 460. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 3, 4, 7, 8, 14-16, 18-21, 24, 25, 27, 28, 30, 31, 33-35, 38, 39, 56, 57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 27, and 30 state, “... at least **about** 5 centimeters... less than **about** .32 centimeters.” Claims 4, 28, and 31 state, “...is at least **about** 22 centimeters...less than **about** 1 centimeters.” The term “**about**” does not clearly indicate a limit of a range. It was understood by the examiner that any number relatively close to these numbers, as claimed by the applicant, could be used. Prior art was applied according.

Claim 7 was not understood by the examiner for the following reasons:

(1) The applicant states, “...wherein “ones” of the protection members...” It was not understood what the term “ones” was referring to.

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(2) The examiner believes that grammatical errors may exist within the claim, which renders it ambiguous and, therefore, indefinite. The content of the claim was not understood. Accordingly, claim 7 has not been further treated on the merits.

Claims 8, 25, 39, and 57 state, "...wherein the mating angles are between **about** 15 degrees and **about** 75 degrees." The terms "**about**" creates an indeterminate range therefore making the claim indefinite. In addition, these claims are dependent upon claims 7, 24, 38, and 56 respectively which all state that no bump discontinuity is found at the overlapping region. It was not understood how there were mating angles of such degrees as claimed in 8, 25, 39, and 57 when no bump was found.

Claims 14, 19, and 33 state, "...the protection members comprise a crosslinked polymeric material having a dielectric strength selected to limit breakdown of the protection members by magnetic fields generated around the core." The prepositional term "**by**" made the claim ambiguous. Although, the examiner understood what was being claimed, it is requested that the term "**by**" be changed to a phrase, such as, "...which is caused by..." in order to clarify what the applicant is claiming.

Claims 15, 20, and 34 state, "... at least **about** 200 volts/centimeters." The term "**about**" does not clearly indicate a limit of a range. Claims 16, 21, and 35 state, "... for at least **about** 100 hours." It was understood by the examiner that any number relatively close to these numbers, as claimed by the applicant, could be used. Prior art was applied according.

Claims 18 and 24 state, "...ones of the protection members..." It was not understood by the examiner what was meant by the term, "**ones**". The claim was examined without the term, "**ones**" being taken into consideration.

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7. Claims 7, 24, 38, and 56 recite the limitation "...extend around **the entirety**..." There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, 4-6, 14, 15, 18, 23, 29, 32, 37 rejected under 35 U.S.C. 102(b) as being unpatentable by U.S. Patent Number 5,353,494 to Bisbee, et al.

Bisbee, et al, discloses a transformer with a core; the core comprising:

(1) In inner diameter and an outer diameter defining an open eye region in the center,
(Abstract)

(2) A preformed L-Shaped insulation layer wrapped about the outer circumference of the core; the L-shape layer comprising a short part which would be placed about an end of the core and a long part wrapped about a circumference of the core, (figure 1A)

(3) An epoxy tape adhesive to secure the L-shaped layer to the core; the adhesive is applied only to the ends of the core. (Figure 1A and column 1, lines 41-43)

(4) A conductor winding wound on top of insulation layer. (Column 4, lines 43-46)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 4, 27, 28, 30, and 31 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,353,494 to Bisbee, et al.

Bisbee, et al, discloses a transformer with a core/spool of magnetic material, which is formed by winding about a mandrel having the desired diameter. Further, he states that variations in the size of the core translate directly into variations in the length of the conductors. Directly, the length of conductors would effect the length of the of sides of the protection layer. (Column 3, lines 31-50)

Bisbee, et al, discloses the claimed invention except for the specific size of the outer diameter and the specific length of the short leg. It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to incorporate an outer diameter and a size of short leg necessary to satisfy the function of the protection member, since such a modification would have involved a mere change in size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955)

12. Claims 14, 15, 19, 20, 33, 34 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,353,494 to Bisbee, et al, in view of U.S. Patent Number 3,702,499 to Virsbreg.

Bisbee, et al, discloses the claimed invention except for the dielectric strength.

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Virsbreg discloses a method of manufacturing a coil comprising several turns of an insulated conductor and provided with at least one layer of insulating material surrounding all the turns, for example high voltage insulation having a dielectric strength of 2,000 volts. (Column 1, lines 5-10)

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Bisbee, et al, with the teachings of Virsbreg and incorporate an appropriate dielectric strength in order to decrease degradation of the protection layer.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,353,494 to Bisbee, et al, in view of U.S. Patent Number 6,137,390 to Tung, et al.

Bisbee, et al, discloses the claimed invention except for the protective layer being comprised of polyethylene.

Tung, et al, discloses an inductive device with enhanced inductance and reduced electromagnetic inductance (EMI) interference, the device contains: (a) a magnetic core; (b) an electrically conducting coil wound about the magnetic core; and (c) a magnetic resin layer made of a polymer resin (the polymer resin being either a thermosetting resin such polyamide, polyimide, or epoxy resin, or a thermoplastic resin such as polyethylene or polypropylene). Superior unexpected results, including increased inductance and reduced EMI effect and magnetic leaks, were observed when a conventional inductor was formed such that a layer of the magnetic resin embedding at least a portion of the outer periphery of the core and electrically conducting coil. (Column 3, lines 20-28)

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Bisbee, et al, with the teachings of Tung, et al, and use a thermoplastic

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resin such as polyethylene or polypropylene as the material for the protective member around the core structure in order to increase inductance and reduce EMI effect and magnetic leaks.

14. Claims 22 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,353,494 to Bisbee, et al, in view of U.S. Patent Number 3,702,499 to Virsbreg as applied to claims 19 and 33 above, and further in view of U.S. Patent Number 6,137,390 to Tung, et al.

Bisbee, et al, in view of Virsbreg disclose the claimed invention except for the protective layer being comprised of polyethylene.

Tung, et al, discloses an inductive device with enhanced inductance and reduced electromagnetic inductance (EMI) interference, the device contains: (a) a magnetic core; (b) an electrically conducting coil wound about the magnetic core; and (c) a magnetic resin layer made of a polymer resin (the polymer resin being a thermosetting resin such polyamide, polyimide, or epoxy resin, or a thermoplastic resin such as polyethylene or polypropylene). Superior unexpected results, including increased inductance and reduced EMI effect and magnetic leaks, were observed when a conventional inductor was formed such that a layer of the magnetic resin embedding at least a portion of the outer periphery of the core and electrically conducting coil. (Column 3, lines 20-28)

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Bisbee, et al, in view of Virsbreg, with the teachings of Tung, et al, and use a thermoplastic resin such as polyethylene or polypropylene as the material for the protective member around the core structure in order to increase inductance and reduce EMI effect and magnetic leaks.

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15. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,353,494 to Bisbee, et al, in view of U.S. Patent Number 6,259,347 to Sines.

Bisbee, et al, discloses the claimed invention except for the protective layer's stability at 150 degrees Centigrade for about 100 hours.

Sines discloses a transformer, which is surrounded by a high thermal-conductivity potting compound, such as a highly filled, castable epoxy system. Potting of the transformer core is accomplished by placing the completed wound copper-core in a mold in which potting compound is molded around the transformer core. The mold is cured for approximately two hours at approximately 100 degrees centigrade. (Column 3, lines 40-42)

Neither in the claim nor the specification, does the applicant fully support the conditions under which the material is held stable nor does the applicant reveal evidence as to why these conditions are beneficial to the system.

Although Bisbee, et al, in view of Sines does not disclose specifically "150 degrees Centigrade for at least about 100 hours", it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate most advantageous conditions, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

16. Claims 21 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,353,494 to Bisbee, et al, in view of U.S. Patent Number 3,702,499 to Virsbreg, as applied to claims 19 and 33 above, and further in view of U.S. Patent Number 6,259,347 to Sines.

Bisbee, et al, in view of Virsbreg disclose the claimed invention except for the protective layer's stability at 150 degrees Centigrade for about 100 hours.

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Sines discloses a transformer, which is surrounded by a high thermal-conductivity potting compound, such as a highly filled, castable epoxy system. Potting of the transformer core is accomplished by placing the completed wound copper-core in a mold in which potting compound is molded around the transformer core. The mold is cured for approximately two hours at approximately 100 degrees centigrade. (Column 3, lines 40-42)

Neither in the claim nor the specification, does the applicant fully support the conditions under which the material is held stable nor does the applicant reveal evidence as to why these conditions are beneficial to the system.

Although Bisbee, et al, in view of Sines does not disclose specifically "150 degrees Centigrade for at least about 100 hours", it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate most advantageous conditions, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

17. Claims 38, 56, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,353,494 to Bisbee, et al, in view of U.S. Patent Number 5,838,220 to Hagberg.

Bisbee, et al, discloses the claimed invention except for the protective layer overlapping having no bump discontinuity at the overlapping region.

Hagberg discloses a core comprising a plastic film surrounding the core and primary winding, the insulative layer is wrapped around the outer periphery of the primary winding and core, as shown in FIG. 4. The length of the plastic sheet must be at least equal to the circumference of the primary winding, and in most cases the length should be sufficient to provide an overlap meeting the required standard for creep distance where the ends of the wide plastic sheet meet. (Column 5,

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lines 48-56) It is clearly seen in figure 5 that the outer circumference surface of the core is continuous with no bump.

One skilled in the art, at the time the invention was made would have found it obvious to combine the teaching of Bisbee, et al, with the teachings of Hagberg and add an overlap region in order to meet the required standard for creep distance.

Regarding claim 58, Bisbee, et al, illustrates a number of protective/insulative members used.
(Figure 1A)


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Poker whose telephone number is 703-305-4037. The examiner can normally be reached on 6:00-3:30, Mon.-Fri. (alternating Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on 703-308-7619. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-3432 for regular communications and 703-746-8181 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

jap
December 17, 2002


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12/27/02